

**SEVENTH APPROXIMATION**  
**DATA FORM FOR CONVENTIONAL ASSESSMENT UNITS (Version 6, 9 April 2003)**

**IDENTIFICATION INFORMATION**

Assessment Geologist:	M.A. Kirschbaum	Date:	9/21/2005
Region:	North America	Number:	5
Province:	Wind River Basin	Number:	5035
Total Petroleum System:	Phosphoria	Number:	503501
Assessment Unit:	Tensleep-Park City	Number:	50350101
Based on Data as of:	IHS Energy (2005), Wyoming Geological Association (1989)		
Notes from Assessor:	NRG Associates (2005, data current through 2003)		

**CHARACTERISTICS OF ASSESSMENT UNIT**

Oil (<20,000 cfg/bo overall) or Gas (≥20,000 cfg/bo overall): Oil

What is the minimum accumulation size? 0.5 mmboe grown  
(the smallest accumulation that has potential to be added to reserves)

No. of discovered accumulations exceeding minimum size: Oil: 18 Gas: 2  
Established (>13 accums.) X Frontier (1-13 accums.)            Hypothetical (no accums.)           

Median size (grown) of discovered oil accumulations (mmbo):  
1st 3rd 14.4 2nd 3rd 61.3 3rd 3rd 3.1  
Median size (grown) of discovered gas accumulations (bcfg):  
1st 3rd            2nd 3rd            3rd 3rd           

**Assessment-Unit Probabilities:**

<u>Attribute</u>	<u>Probability of occurrence (0-1.0)</u>
1. <b>CHARGE:</b> Adequate petroleum charge for an undiscovered accum. ≥ minimum size:	<u>1.0</u>
2. <b>ROCKS:</b> Adequate reservoirs, traps, and seals for an undiscovered accum. ≥ minimum size:	<u>1.0</u>
3. <b>TIMING OF GEOLOGIC EVENTS:</b> Favorable timing for an undiscovered accum. ≥ minimum size:	<u>1.0</u>

**Assessment-Unit GEOLOGIC Probability** (Product of 1, 2, and 3): 1.0

**UNDISCOVERED ACCUMULATIONS**

**No. of Undiscovered Accumulations:** How many undiscovered accums. exist that are ≥ min. size?:  
(uncertainty of fixed but unknown values)

Oil Accumulations:	minimum (>0) <u>1</u>	mode <u>5</u>	maximum <u>15</u>
Gas Accumulations:	minimum (>0) <u>1</u>	mode <u>7</u>	maximum <u>40</u>

**Sizes of Undiscovered Accumulations:** What are the sizes (**grown**) of the above accums?:  
(variations in the sizes of undiscovered accumulations)

Oil in Oil Accumulations (mmbo):	minimum <u>0.5</u>	median <u>1.5</u>	maximum <u>50</u>
Gas in Gas Accumulations (bcfg):	minimum <u>3</u>	median <u>10</u>	maximum <u>300</u>

**AVERAGE RATIOS FOR UNDISCOVERED ACCUMS., TO ASSESS COPRODUCTS**

(uncertainty of fixed but unknown values)

<u>Oil Accumulations:</u>	minimum	mode	maximum
Gas/oil ratio (cfg/bo)	500	1000	1500
NGL/gas ratio (bngl/mmcf)	12	24	36
<u>Gas Accumulations:</u>	minimum	mode	maximum
Liquids/gas ratio (bliq/mmcf)	10	20	30
Oil/gas ratio (bo/mmcf)			

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**SELECTED ANCILLARY DATA FOR UNDISCOVERED ACCUMULATIONS**

(variations in the properties of undiscovered accumulations)

<u>Oil Accumulations:</u>	minimum	mode	maximum
API gravity (degrees)	20	28	55
Sulfur content of oil (%)	0.1	3	5
Depth (m) of water (if applicable)			
Drilling Depth (m)	minimum 1000	F75 1866 mode 2000	F25 2775 maximum 4000
<u>Gas Accumulations:</u>	minimum	mode	maximum
Inert gas content (%)	0	0.3	7
CO <sub>2</sub> content (%)	0	0.5	4
Hydrogen-sulfide content (%)	0	0.3	5.5
Depth (m) of water (if applicable)			
Drilling Depth (m)	minimum 1000	F75 2414 mode 3000	F25 3586 maximum 5000

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**ALLOCATIONS OF POTENTIAL ADDITIONS TO RESERVES TO STATES**  
**Surface Allocations** (uncertainty of a fixed value)

1.	<u>Wyoming</u>	represents	<u>100</u>	area % of the AU
	<u>Oil in Oil Accumulations:</u>	minimum	mode	maximum
	Volume % in entity	<u>          </u>	<u>100</u>	<u>          </u>
	<u>Gas in Gas Accumulations:</u>			
	Volume % in entity	<u>          </u>	<u>100</u>	<u>          </u>
2.	<u>                                </u>	represents	<u>          </u>	area % of the AU
	<u>Oil in Oil Accumulations:</u>	minimum	mode	maximum
	Volume % in entity	<u>          </u>	<u>          </u>	<u>          </u>
	<u>Gas in Gas Accumulations:</u>			
	Volume % in entity	<u>          </u>	<u>          </u>	<u>          </u>
3.	<u>                                </u>	represents	<u>          </u>	area % of the AU
	<u>Oil in Oil Accumulations:</u>	minimum	mode	maximum
	Volume % in entity	<u>          </u>	<u>          </u>	<u>          </u>
	<u>Gas in Gas Accumulations:</u>			
	Volume % in entity	<u>          </u>	<u>          </u>	<u>          </u>
4.	<u>                                </u>	represents	<u>          </u>	area % of the AU
	<u>Oil in Oil Accumulations:</u>	minimum	mode	maximum
	Volume % in entity	<u>          </u>	<u>          </u>	<u>          </u>
	<u>Gas in Gas Accumulations:</u>			
	Volume % in entity	<u>          </u>	<u>          </u>	<u>          </u>
5.	<u>                                </u>	represents	<u>          </u>	area % of the AU
	<u>Oil in Oil Accumulations:</u>	minimum	mode	maximum
	Volume % in entity	<u>          </u>	<u>          </u>	<u>          </u>
	<u>Gas in Gas Accumulations:</u>			
	Volume % in entity	<u>          </u>	<u>          </u>	<u>          </u>
6.	<u>                                </u>	represents	<u>          </u>	area % of the AU
	<u>Oil in Oil Accumulations:</u>	minimum	mode	maximum
	Volume % in entity	<u>          </u>	<u>          </u>	<u>          </u>
	<u>Gas in Gas Accumulations:</u>			
	Volume % in entity	<u>          </u>	<u>          </u>	<u>          </u>

7.	_____	represents	_____	area % of the AU
<u>Oil in Oil Accumulations:</u>	minimum		mode	maximum
Volume % in entity	_____		_____	_____
<u>Gas in Gas Accumulations:</u>				
Volume % in entity	_____		_____	_____
8.	_____	represents	_____	area % of the AU
<u>Oil in Oil Accumulations:</u>	minimum		mode	maximum
Volume % in entity	_____		_____	_____
<u>Gas in Gas Accumulations:</u>				
Volume % in entity	_____		_____	_____
9.	_____	represents	_____	area % of the AU
<u>Oil in Oil Accumulations:</u>	minimum		mode	maximum
Volume % in entity	_____		_____	_____
<u>Gas in Gas Accumulations:</u>				
Volume % in entity	_____		_____	_____
10.	_____	represents	_____	area % of the AU
<u>Oil in Oil Accumulations:</u>	minimum		mode	maximum
Volume % in entity	_____		_____	_____
<u>Gas in Gas Accumulations:</u>				
Volume % in entity	_____		_____	_____
11.	_____	represents	_____	area % of the AU
<u>Oil in Oil Accumulations:</u>	minimum		mode	maximum
Volume % in entity	_____		_____	_____
<u>Gas in Gas Accumulations:</u>				
Volume % in entity	_____		_____	_____
12.	_____	represents	_____	area % of the AU
<u>Oil in Oil Accumulations:</u>	minimum		mode	maximum
Volume % in entity	_____		_____	_____
<u>Gas in Gas Accumulations:</u>				
Volume % in entity	_____		_____	_____

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**ALLOCATIONS OF POTENTIAL ADDITIONS TO RESERVES TO LAND ENTITIES**  
**Surface Allocations** (uncertainty of a fixed value)

1. <u>Federal Lands</u>	represents	<u>40.44</u>	area % of the AU
<u>Oil in Oil Accumulations:</u>	minimum	mode	maximum
Volume % in entity	<u>                    </u>	<u>35</u>	<u>                    </u>
<u>Gas in Gas Accumulations:</u>			
Volume % in entity	<u>                    </u>	<u>35</u>	<u>                    </u>
2. <u>Private Lands</u>	represents	<u>30.35</u>	area % of the AU
<u>Oil in Oil Accumulations:</u>	minimum	mode	maximum
Volume % in entity	<u>                    </u>	<u>30</u>	<u>                    </u>
<u>Gas in Gas Accumulations:</u>			
Volume % in entity	<u>                    </u>	<u>30</u>	<u>                    </u>
3. <u>Tribal Lands</u>	represents	<u>23.05</u>	area % of the AU
<u>Oil in Oil Accumulations:</u>	minimum	mode	maximum
Volume % in entity	<u>                    </u>	<u>30</u>	<u>                    </u>
<u>Gas in Gas Accumulations:</u>			
Volume % in entity	<u>                    </u>	<u>30</u>	<u>                    </u>
4. <u>Other Lands</u>	represents	<u>0.75</u>	area % of the AU
<u>Oil in Oil Accumulations:</u>	minimum	mode	maximum
Volume % in entity	<u>                    </u>	<u>0</u>	<u>                    </u>
<u>Gas in Gas Accumulations:</u>			
Volume % in entity	<u>                    </u>	<u>0</u>	<u>                    </u>
5. <u>WY State Lands</u>	represents	<u>5.41</u>	area % of the AU
<u>Oil in Oil Accumulations:</u>	minimum	mode	maximum
Volume % in entity	<u>                    </u>	<u>5</u>	<u>                    </u>
<u>Gas in Gas Accumulations:</u>			
Volume % in entity	<u>                    </u>	<u>5</u>	<u>                    </u>
6. <u>                                    </u>	represents	<u>                    </u>	area % of the AU
<u>Oil in Oil Accumulations:</u>	minimum	mode	maximum
Volume % in entity	<u>                    </u>	<u>                    </u>	<u>                    </u>
<u>Gas in Gas Accumulations:</u>			
Volume % in entity	<u>                    </u>	<u>                    </u>	<u>                    </u>

7.	_____	represents	_____	area % of the AU
<u>Oil in Oil Accumulations:</u>	minimum		mode	maximum
Volume % in entity	_____		_____	_____
<u>Gas in Gas Accumulations:</u>				
Volume % in entity	_____		_____	_____
8.	_____	represents	_____	area % of the AU
<u>Oil in Oil Accumulations:</u>	minimum		mode	maximum
Volume % in entity	_____		_____	_____
<u>Gas in Gas Accumulations:</u>				
Volume % in entity	_____		_____	_____
9.	_____	represents	_____	area % of the AU
<u>Oil in Oil Accumulations:</u>	minimum		mode	maximum
Volume % in entity	_____		_____	_____
<u>Gas in Gas Accumulations:</u>				
Volume % in entity	_____		_____	_____
10.	_____	represents	_____	area % of the AU
<u>Oil in Oil Accumulations:</u>	minimum		mode	maximum
Volume % in entity	_____		_____	_____
<u>Gas in Gas Accumulations:</u>				
Volume % in entity	_____		_____	_____
11.	_____	represents	_____	area % of the AU
<u>Oil in Oil Accumulations:</u>	minimum		mode	maximum
Volume % in entity	_____		_____	_____
<u>Gas in Gas Accumulations:</u>				
Volume % in entity	_____		_____	_____
12.	_____	represents	_____	area % of the AU
<u>Oil in Oil Accumulations:</u>	minimum		mode	maximum
Volume % in entity	_____		_____	_____
<u>Gas in Gas Accumulations:</u>				
Volume % in entity	_____		_____	_____

**ALLOCATIONS OF POTENTIAL ADDITIONS TO RESERVES TO FEDERAL LAND SUBDIVISIONS**

**Surface Allocations** (uncertainty of a fixed value)

1.	<u>Bureau of Land Management (BLM)</u>	represents	<u>33.73</u>	area % of the AU
	<u>Oil in Oil Accumulations:</u>	minimum	mode	maximum
	Volume % in entity	<u>                    </u>	<u>33</u>	<u>                    </u>
	<u>Gas in Gas Accumulations:</u>			
	Volume % in entity	<u>                    </u>	<u>33</u>	<u>                    </u>
2.	<u>BLM Wilderness Areas (BLMW)</u>	represents	<u>            </u>	area % of the AU
	<u>Oil in Oil Accumulations:</u>	minimum	mode	maximum
	Volume % in entity	<u>                    </u>	<u>                    </u>	<u>                    </u>
	<u>Gas in Gas Accumulations:</u>			
	Volume % in entity	<u>                    </u>	<u>                    </u>	<u>                    </u>
3.	<u>BLM Roadless Areas (BLMR)</u>	represents	<u>            </u>	area % of the AU
	<u>Oil in Oil Accumulations:</u>	minimum	mode	maximum
	Volume % in entity	<u>                    </u>	<u>                    </u>	<u>                    </u>
	<u>Gas in Gas Accumulations:</u>			
	Volume % in entity	<u>                    </u>	<u>                    </u>	<u>                    </u>
4.	<u>National Park Service (NPS)</u>	represents	<u>            </u>	area % of the AU
	<u>Oil in Oil Accumulations:</u>	minimum	mode	maximum
	Volume % in entity	<u>                    </u>	<u>                    </u>	<u>                    </u>
	<u>Gas in Gas Accumulations:</u>			
	Volume % in entity	<u>                    </u>	<u>                    </u>	<u>                    </u>
5.	<u>NPS Wilderness Areas (NPSW)</u>	represents	<u>            </u>	area % of the AU
	<u>Oil in Oil Accumulations:</u>	minimum	mode	maximum
	Volume % in entity	<u>                    </u>	<u>                    </u>	<u>                    </u>
	<u>Gas in Gas Accumulations:</u>			
	Volume % in entity	<u>                    </u>	<u>                    </u>	<u>                    </u>
6.	<u>NPS Protected Withdrawals (NPSP)</u>	represents	<u>            </u>	area % of the AU
	<u>Oil in Oil Accumulations:</u>	minimum	mode	maximum
	Volume % in entity	<u>                    </u>	<u>                    </u>	<u>                    </u>
	<u>Gas in Gas Accumulations:</u>			
	Volume % in entity	<u>                    </u>	<u>                    </u>	<u>                    </u>

7. <u>US Forest Service (FS)</u>	represents	<u>4.06</u>	area % of the AU
<u>Oil in Oil Accumulations:</u>	minimum	mode	maximum
Volume % in entity	<u>                    </u>	<u>0</u>	<u>                    </u>
<u>Gas in Gas Accumulations:</u>			
Volume % in entity	<u>                    </u>	<u>0</u>	<u>                    </u>
8. <u>USFS Wilderness Areas (FSW)</u>	represents	<u>                    </u>	area % of the AU
<u>Oil in Oil Accumulations:</u>	minimum	mode	maximum
Volume % in entity	<u>                    </u>	<u>                    </u>	<u>                    </u>
<u>Gas in Gas Accumulations:</u>			
Volume % in entity	<u>                    </u>	<u>                    </u>	<u>                    </u>
9. <u>USFS Roadless Areas (FSR)</u>	represents	<u>                    </u>	area % of the AU
<u>Oil in Oil Accumulations:</u>	minimum	mode	maximum
Volume % in entity	<u>                    </u>	<u>                    </u>	<u>                    </u>
<u>Gas in Gas Accumulations:</u>			
Volume % in entity	<u>                    </u>	<u>                    </u>	<u>                    </u>
10. <u>USFS Protected Withdrawals (FSP)</u>	represents	<u>                    </u>	area % of the AU
<u>Oil in Oil Accumulations:</u>	minimum	mode	maximum
Volume % in entity	<u>                    </u>	<u>                    </u>	<u>                    </u>
<u>Gas in Gas Accumulations:</u>			
Volume % in entity	<u>                    </u>	<u>                    </u>	<u>                    </u>
11. <u>US Fish and Wildlife Service (FWS)</u>	represents	<u>                    </u>	area % of the AU
<u>Oil in Oil Accumulations:</u>	minimum	mode	maximum
Volume % in entity	<u>                    </u>	<u>                    </u>	<u>                    </u>
<u>Gas in Gas Accumulations:</u>			
Volume % in entity	<u>                    </u>	<u>                    </u>	<u>                    </u>
12. <u>USFWS Wilderness Areas (FWSW)</u>	represents	<u>                    </u>	area % of the AU
<u>Oil in Oil Accumulations:</u>	minimum	mode	maximum
Volume % in entity	<u>                    </u>	<u>                    </u>	<u>                    </u>
<u>Gas in Gas Accumulations:</u>			
Volume % in entity	<u>                    </u>	<u>                    </u>	<u>                    </u>

13. <u>USFWS Protected Withdrawals (FWSP)</u>	represents	_____	area % of the AU
<u>Oil in Oil Accumulations:</u>	minimum	mode	maximum
Volume % in entity	_____	_____	_____
<u>Gas in Gas Accumulations:</u>			
Volume % in entity	_____	_____	_____
14. <u>Wilderness Study Areas (WS)</u>	represents	_____	area % of the AU
<u>Oil in Oil Accumulations:</u>	minimum	mode	maximum
Volume % in entity	_____	_____	_____
<u>Gas in Gas Accumulations:</u>			
Volume % in entity	_____	_____	_____
15. <u>Department of Energy (DOE)</u>	represents	_____	area % of the AU
<u>Oil in Oil Accumulations:</u>	minimum	mode	maximum
Volume % in entity	_____	_____	_____
<u>Gas in Gas Accumulations:</u>			
Volume % in entity	_____	_____	_____
16. <u>Department of Defense (DOD)</u>	represents	_____	area % of the AU
<u>Oil in Oil Accumulations:</u>	minimum	mode	maximum
Volume % in entity	_____	_____	_____
<u>Gas in Gas Accumulations:</u>			
Volume % in entity	_____	_____	_____
17. <u>Bureau of Reclamation (BOR)</u>	represents	2.63	area % of the AU
<u>Oil in Oil Accumulations:</u>	minimum	mode	maximum
Volume % in entity	_____	2	_____
<u>Gas in Gas Accumulations:</u>			
Volume % in entity	_____	2	_____
18. <u>Tennessee Valley Authority (TVA)</u>	represents	_____	area % of the AU
<u>Oil in Oil Accumulations:</u>	minimum	mode	maximum
Volume % in entity	_____	_____	_____
<u>Gas in Gas Accumulations:</u>			
Volume % in entity	_____	_____	_____

19. Other Federal represents            area % of the AU

<u>Oil in Oil Accumulations:</u>	minimum	mode	maximum
Volume % in entity			

<u>Gas in Gas Accumulations:</u>			
Volume % in entity			

20. \_\_\_\_\_ represents \_\_\_\_\_ area % of the AU

<u>Oil in Oil Accumulations:</u>	minimum	mode	maximum
Volume % in entity	_____	_____	_____

<u>Gas in Gas Accumulations:</u>			
Volume % in entity			

### ALLOCATIONS OF POTENTIAL ADDITIONS TO RESERVES TO ECOSYSTEMS

1.	Bighorn Basin (BHBA)	represents	0	area % of the AU
	<u>Oil in Oil Accumulations:</u>	minimum	mode	maximum
	Volume % in entity		0	
	<u>Gas in Gas Accumulations:</u>			
	Volume % in entity		0	
2.	Central Basin and Hills (CNBH)	represents	98	area % of the AU
	<u>Oil in Oil Accumulations:</u>	minimum	mode	maximum
	Volume % in entity		98	
	<u>Gas in Gas Accumulations:</u>			
	Volume % in entity		98	
3.	Overthrust Mountains (OVMT)	represents	1	area % of the AU
	<u>Oil in Oil Accumulations:</u>	minimum	mode	maximum
	Volume % in entity		1	
	<u>Gas in Gas Accumulations:</u>			
	Volume % in entity		1	
4.	Wind River Mountain (WRMT)	represents	1	area % of the AU
	<u>Oil in Oil Accumulations:</u>	minimum	mode	maximum
	Volume % in entity		1	
	<u>Gas in Gas Accumulations:</u>			
	Volume % in entity		1	
5.	Yellowstone Highlands (YSHL)	represents	0	area % of the AU
	<u>Oil in Oil Accumulations:</u>	minimum	mode	maximum
	Volume % in entity		0	
	<u>Gas in Gas Accumulations:</u>			
	Volume % in entity		0	
6.		represents		area % of the AU
	<u>Oil in Oil Accumulations:</u>	minimum	mode	maximum
	Volume % in entity			
	<u>Gas in Gas Accumulations:</u>			
	Volume % in entity			

7.	_____	represents	_____	area % of the AU
<u>Oil in Oil Accumulations:</u>	minimum		mode	maximum
Volume % in entity	_____		_____	_____
<u>Gas in Gas Accumulations:</u>				
Volume % in entity	_____		_____	_____
8.	_____	represents	_____	area % of the AU
<u>Oil in Oil Accumulations:</u>	minimum		mode	maximum
Volume % in entity	_____		_____	_____
<u>Gas in Gas Accumulations:</u>				
Volume % in entity	_____		_____	_____
9.	_____	represents	_____	area % of the AU
<u>Oil in Oil Accumulations:</u>	minimum		mode	maximum
Volume % in entity	_____		_____	_____
<u>Gas in Gas Accumulations:</u>				
Volume % in entity	_____		_____	_____
10.	_____	represents	_____	area % of the AU
<u>Oil in Oil Accumulations:</u>	minimum		mode	maximum
Volume % in entity	_____		_____	_____
<u>Gas in Gas Accumulations:</u>				
Volume % in entity	_____		_____	_____
11.	_____	represents	_____	area % of the AU
<u>Oil in Oil Accumulations:</u>	minimum		mode	maximum
Volume % in entity	_____		_____	_____
<u>Gas in Gas Accumulations:</u>				
Volume % in entity	_____		_____	_____
12.	_____	represents	_____	area % of the AU
<u>Oil in Oil Accumulations:</u>	minimum		mode	maximum
Volume % in entity	_____		_____	_____
<u>Gas in Gas Accumulations:</u>				
Volume % in entity	_____		_____	_____